

## Abstract

The present invention relates to a novel potassium channel protein expressed exclusively in the brain, a gene encoding this protein, a vector containing this gene, a host cell containing this vector, and so on.

A typical method for obtaining the potassium channel protein of the present invention; mRNA is extracted from human cells or tissue capable of producing the potassium channel protein of the present invention. Then use is made of two primers between which the channel protein mRNA or a part of the mRNA region is located by using the thus extracted mRNA as a template. By carrying out a reverse transcriptase-polymerase chain reaction (to be referred to as RT-PCR hereinafter), the channel protein cDNA or a part thereof can be obtained. Thereafter, the channel protein can be produced by integrating the thus obtained novel potassium channel cDNA or a part of the same into an appropriate expression vector and then effecting its expression in a host cell.